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EXAMINER	
MILLS, DONALD L	
ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/036,032	CHENG ET AL.	
	Examiner	Art Unit	
	Donald L. Mills	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-4 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 20, the claim specifies *hierarchical subnets* (For example, see claim 1, line 5.) The intended meaning of hierarchical subnets is unclear from the context of the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, and 20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Perlman (US Pat. No. 4,864,559).

In regards to claim 1, Referring to Figures 1, Perlman discloses a network 100 that has

each router assigned to one of two hierarchical levels L1 and L2 (Figure 2; column 5, lines 60-68; column 6, lines 9-32; columns 7, lines 31-39; claim 1 - assigning each router in said network to one of a plurality of hierarchical levels in one of the plurality of hierarchical levels). Perlman discloses a multicast range that can be a link, an area, or an entire network (column 10, lines 46-52; claim 1 - identifying a scope region for a subnet bounded by one or more of the plurality hierarchical levels in which to route said packets of data). Referring to Figures 5, Perlman discloses a multicast address 582 that identifies a multicast range (column 10, lines 20-21 and 46-49; claim 1 - identifying a root identifier for the scope region for the subnet). Perlman discloses a node that receives a data message from a sending node and forwards this data message to appropriate nodes (column 8, lines 11-13; claim 1 - forwarding packets of data from said source to the routers in the subnet). Referring to Figures 5, Perlman discloses a message format that has a LOC-AREA field 550 used to identify the area within a network. The message format also has a multicast address field (column 10, lines 18- 26; claim 1 - said packets of data contain data fields identifying the scope region and the root identifier of the scope region).

In regards to claim 2, Referring to Figures 1 and 8, Perlman discloses a level 1 router that receives and forwards a message to a level 2 router, as represented in step 714. This level 1 router also receives and forwards a message to a level 1 router, as represented in step 728 (column 6, lines 16-29; column 12, lines 13-20 and 66-68; claim 2 - identifying each router that sends packets of data to or from a router at a higher or lower level as a hierarchical designated router). Perlman also discloses a corresponding multicast range that is a

multicast spanning tree. Each node in a group uses a common root node to calculate a single spanning tree for each corresponding respective group. The root node is selected using some simple criterion such as a lowest or highest address value (column 11 , lines 15-26; claim 2 - identifying the root identifier for the scope region as the hierarchical designated router directly above the scope region).

In regards to claim 20, Referring to Figure 8, Perlman discloses multicast messages that are forwarded to all of the nodes in the corresponding multicast range. (Abstract; column 12, lines 4-12; claim 20 - forwarding packets of data between routers, wherein said packets of data contain data identifying a scope region containing the lower and upper hierarchical levels to which the packets will be forwarded). Perlman discloses link state packets that are forwarded to all nodes in the network. Referring to Figure 3, Perlman also discloses a corresponding list of known active nodes that is stored in Link state packet database 350 (column 8, lines 11-14; column 11 , lines 4-10; claim 20 – an application identifier for the multicast session). Perlman also discloses a corresponding multicast range that is a multicast spanning tree. Each node in a group uses a common root node to calculate a single spanning tree for each corresponding respective group. The root node is selected using some simple criterion such as a lowest or highest address value (column 11, lines 15-26; claim 20 - and a unique root identifier for the scope region wherein the scope region and the unique root identifier identify the subnet to which packets are forwarded).

5. Claims 5-10 are rejected under 35 U.S.C. 102 (e) as being anticipated by Green (US Pat. No. 5,517,494).

In regards to claim 5, Referring to Figures 3B, 4A and 11A (step 162), Green discloses an endpoint that wishes to join a group. This endpoint sends a join group request to all of nodes/routers 92 on its local net. The request packet includes a multicast address 80 and an application identifier 85 (column 5, lines 54-61 ; column 7, lines 26-38; column 10, lines 51-54; column 13, lines 64-67; claim 5 - obtaining at the joining receiver the scope region and the application identifier of the multicast session from the source; sending a root identifier request from the joining receiver to a first parent router to which said joining receiver is in communication wherein said root identifier request contains the scope region and the application identifier of the multicast session). Referring to Figure 11A, Green discloses steps 162, 164, 166-168, 170, and 174 to determine that the first parent router is within a scope region and is not the root of for the scope region, then to invoke a join operation, and to confirm request. Referring to both Figures 11A and 11B, Green also discloses steps 162, 164, 180-183, and 174 to determine that the first parent router is within a scope region and is the root of for the scope region, then to invoke a join operation, and to confirm request (column 10, lines 51-67, column 11, lines 1-5; column 13, lines 64-67; column 14, lines 1-25; claim 5 - determining at the first parent router whether the first parent router is within the scope region; if the first parent router is within the scope region, locating the root identifier for the scope region at the first parent router; invoking a join operation at the first parent router to join the receiver to the multicast session; and then replying from the first parent router to the receiver with a root identifier reply message once the join operation is completed).

In regards to claim 6, Referring to Figure 11A, Green discloses steps 164, 166 that

determine if a first parent router is pad of a multicast tree (column 14, lines 1-5; claim 6 - determining if the first parent router is part of the multicast tree). Referring to Figure 11A, Green discloses if a first parent router is not part of a multicast tree, then at step 167 a joint request is forwarded towards a root of a distribution tree using a route entry. Referring to Figure 4B, Green discloses a memory of a router that includes a group forwarding table 96. A node 92 set up a group address and a corresponding outgoing interface for a joining receiver, in a group forwarding table 96 when it tries to join a distribution tree for a group (column 9, lines 8-19; column 14, lines 7; claim 6 - if the first parent router is not part of the multicast tree, setting up a transient forwarding cache at the first parent router consisting of a group address and a corresponding outgoing interface for the joining receiver; sending a join message from the first parent router to a second parent router). Referring to Figure 11A, Green discloses a second parent router that has joined a multicast tree, as shown in steps 168 and 170. Next, a request is confirm at step 174 (column 14, lines 11-15; claim 6 – receiving an acknowledge message from the second parent at the first parent router after the second parent router has joined the multicast tree).

In regards to claim 7, Referring to Figure 4, Green discloses a parent node that gets a joint group request packet and it is not yet a member of the group, the parent node forwards the packet towards a creator node of a group. It then adds the group to a group forwarding table 96 with a state of joining. The network number part of a group address is used to find a parent node in a network route table 95 to forward a join group request packet towards a creator node of a group (column 10, lines 58-65; claim 7 - determining at the first parent router if there is a transient forwarding cache for the group address specified in the acknowledge message).

Green discloses a joint group request packet that eventually reaches a creator node and its nodes. Necessary routing data are added to each node along a forwarding path. Nodes receive and forward a join group confirm packet on the reverse path towards the joining endpoint (column 10, lines 66-67; column 11, lines 1-15; claim 7 - switching the transient forwarding cache to a confirmed forwarding cache prior to replying with the root identifier to the receiver).

In regards to claim 8, Referring to Figure 3B, Green discloses a multicast routing protocol header 83 that includes a multicast address 80 and a packet type 85: The packet type 80 is used to denote the type of multicast packet. Referring to Figure 1, Green discloses an Internet that has senders and receivers for multicast packets. (column 5, lines 54-67; column 6, lines 1-27;.column 7, lines 26-38; claim 8 - the joining receiver receives the scope region and the application identifier from the source through the Internet).

In regards to claim 9, Referring to Figure 3B, Green discloses a multicast routing protocol header 83 that includes a multicast address 80, a packet type 85, and a version number 84. The version number 84 is used to distinguish compatible versions of the multicast routing protocol (column 7, lines 26-38; claim 9 - the joining receiver receives the scope region and the application identifier from the source through session announcement protocol).

In regards to claim 10, Referring to Figure 3B, Green discloses a multicast routing protocol header 83 that consists of a multicast address 80, a packet type 85, a version number 84, and a transaction ID 86. The transaction ID 86 is used to match transaction responses with transaction requests (column 7, lines 26-38; claim 10 - the joining receiver receives the scope region and the application identifier through session description protocol).

6. Claim 11-17 are rejected under 35 ULS.C. 102 (e) as being anticipated by Shaughnessy et al. (US Pat. No. 6,141,347), hereafter Shaughnessy.

In regards to claim 11, Referring to Figures 4 and 5, Shaughnessy discloses a subscriber unit that roams between sites. A subscriber unit sends an affiliation message to a site. The affiliation message includes both a talk group identification group and a multicast address (column 5, lines 39-67; column 6, lines 1-19; claim 11 - sending a mobility report message from the mobile receiver to the second router wherein the mobility report message contains data identifying the scope region of the multicast session, the application identifier of the multicast session and the root identifier of the scope region).

In regards to claim 12, Referring to Figures 4 and 6, Shaughnessy discloses a second router that receives an affiliation message from a mobile subscriber unit, as represented in step 601 (column 6, lines 33-38; claim 12 - receiving the mobility report message at the second router). Shaughnessy also discloses a step 602 that determines if a talk group is represented at a second router. If not, the process proceeds to step 603. At step 603, the second router identifies a multicast address corresponding to the talk groups indicated in the affiliation message (column 5, lines 2-12; column 6, lines 33-41 and 54-66; claim 12 - determining at the second router if the second router is outside the scope region; and, invoking a mobile join operation if the second router is outside the scope region).

In regards to claim 13, Referring to Figures 2, 4 and 6, Shaughnessy discloses a router that transmit a mobile joint message to a packet network or a router that can generate a reconfiguration request responsive to a multicast address received from a mobile subscriber unit, as represented by step 604 (column 3, lines 33- 45; column 7, lines 16-30; column 9, lines 3-9;

claim 13 - sending a mobile join message from the second router toward a third router toward the router associated with the root identifier).

In regards to claim 14, Shaughnessy discloses a reconfiguration request made at step 604 that causes a spanning tree associated with a multicast address to be re-defined to include a multicast router for a site (column 7, lines 27-30; claim 14 - placing a transient entry in the forwarding cache indicating the router associated with the root identifier as source of data packets to be forwarded to the mobile receiver).

In regards to claim 15, Referring to Figures 2, 4 and 6, Shaughnessy discloses a router that transmit a mobile joint message to a packet network or a router that can generate a reconfiguration request responsive to a multicast address, as represented by step 604 (column 3, lines 33- 45; column 7, lines 16-30; column 9, lines 3-9; claim 15 - the mobile join message is sent by the second router to all other routers with which it is in communication).

In regards to claim 16, Referring to Figures 2, 4 and 6, Shaughnessy discloses a router that transmit a mobile joint message to a packet network or a router that can generate a reconfiguration request responsive to a multicast address. Shaughnessy also discloses a reconfiguration request made at step 604 that causes a spanning tree associated with a multicast address to be re-defined to include a multicast router for a site, as represented by step 604. Shaughnessy further discloses a spanning tree associated with a multicast address that defines the most efficient routing within a network (column 3, lines 33- 45; column 7, lines 16-30, 27-30, and 65-66; column 9, lines 3-9; claim 16 - receiving the mobile join message at the third

router; determining at the third router whether the third router is the binding point for communication to the mobile receiver wherein the binding point is the router that provides a linkage between the scope region and the mobile receiver through the shortest path).

In regards to claim 17, Referring to Figures 2, 4 and 6, Shaughnessy discloses a router that transmit a mobile joint message to a packet network or a router that can generate a reconfiguration request responsive to a multicast address. Shaughnessy also discloses a reconfiguration request made at step 604 that causes a spanning tree associated with a multicast address to be re-defined to include a multicast router for a site (column 7, lines 16-30; claim 17 - the third router is the binding point if the address of the third router is equal to the root identifier or if the address of any ascendant router in which the third router is in communication is equal to the root identifier).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman, in view of Shaughnessy.

Perlman discloses the above limitations of claim 2 but it does not disclose identifying a binding point for providing a linkage between the scope region and a location for a receiver that has moved outside the scope region.

Referring to Figures 4, 5, and 6, Shaughnessy discloses a subscriber unit that roams between sites. A subscriber unit sends a reconfiguration request to a site to be passed on to a network, as represented by step 503. The configuration request made at step 604 causes a spanning tree associated with a multicast address to be redefined to include a multicast router for the site (column 7, lines 16-34; claim 3 - identifying a binding point for providing a linkage between the scope region and a location for a receiver that has moved outside the scope region).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a hierarchical network of Perlman to provide a linkage between a scope region and a location for a receiver that has moved outside the scope region, as shown by Shaughnessy, so that mobility processing is decentralized, system scalability is improved and call setup delays are minimized (Shaughnessy; Abstract; column 8, lines 1-12).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman, in view of Doeringer et al. (US Pat. No. 5,361,256), hereafter Doeringer.

Referring to Figures 5, Perlman discloses a message format that has a LOC-AREA field 550 used to identify the area within a network. The message format also has a multicast address field 582 (column 10, lines 18-26; claim 4 - receiving a packet of data at a router in the network). Perlman also discloses a multicast address field 582 which a node uses to test whether a multicast address is of interest to the node (column 10, lines 40-45; claim 4 - determining whether the router is within the scope region specified in the data field identifying the scope region for the packet of data). However, Perlman does not disclose a data packet that is discarded if the router is outside a scope region.

Doeringer discloses a router that would discard a multicast packet if this router receives the packet for a particular group that does not lie on a branch of a multicast tree (column 4, lines 63-68; claim 4 - and, discarding the data packet if the router is outside the scope region).

It would have been obvious to one of ordinary skill in the ad at the time of the invention to modify a hierarchical network of Perlman to discard a data packet if a receiving router is outside the scope region, as shown by Doeringer, because this packet does not require to be forwarded but occupies resources (Perlman; column 4, lines 32-34).

10. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaughnessy, in view of Green.

In regards to claim 18, Shaughnessy discloses the above limitations of claim 16 but it does not disclose a third router that sends a mobile acknowledge message to a second router once a binding point has been determined.

Referring to Figure 11A, Green discloses a router that has joined a multicast tree, as shown in steps 168 and 170. Next, a request is confirm at step 174 (column 11, lines 1-5; column 14, lines 11-15; claim 18 - sending a mobile acknowledge message from the third router to the second router once the binding point has been determined).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a method of Shaughnessy to send a mobile acknowledge message: from the third router to the second router once the binding point has been determined, as shown by Green, so that required multicast addresses are determined by the second routers during mobility events.

Also, since mobility processing is decentralized, system scalability is improved and call setup delays are minimized (Shaughnessy; Abstract; column 8, lines 1-12).

In regards to claim 19, Referring to Figures 2 and 6, Shaughnessy discloses a router that receives an outbound voice or data traffic identified by a multicast address and then transmits the traffic to subscriber units associated with a talk group, as represented by steps 605 and 606 (column 7, lines 31-51; claim 19 - packets of data that are forwarded from a multicast session to a mobile receiver through a binding point, a third router and a second router). However, Shaughnessy does not disclose a second router that sends a mobile reply message to a mobile receiver.

Referring to Figure 11A, Green discloses a router that has joined a multicast tree, as shown in steps 168 and 170. Next, a request is confirm at step 174 (column 11, lines 1-11; column 14, lines 11-15; claim 19 - sending a mobile reply message from the second router to the mobile receiver).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a method of Shaughnessy to send a mobile reply message from the second router to the mobile receiver, as shown by Green, since an endpoint wishes to send data to a group which it has created it must wait until it receives a joint request from its creator node (Green; column 11, lines 26-28).

Response to Arguments

11. Applicant's arguments filed 04 April 2006 have been fully considered but they are not persuasive.

Rejection Under 35 USC 102

On page 10 of the remarks, regarding claim 1, the Applicant argues that Perlman does not teach or suggest identifying a scope region bounded by one or more of the plurality of hierarchical levels in which to route the packets of data. The Examiner respectfully disagrees. Perlman discloses a multicast message distribution which comprises multicast range. Perlman discloses a multicast range that can be a link (hierarchical subnet), an area (another form of a hierarchical subnet), or an entire network (column 10, lines 46-52; claim 1 - identifying a scope region for a subnet bounded by one or more of the plurality hierarchical levels in which to route said packets of data). Referring to Figures 5, Perlman discloses a multicast address 582 that identifies a multicast range (column 10, lines 20-21 and 46-49; claim 1 - identifying a root identifier for the scope region for the subnet). Perlman discloses a node that receives a data message from a sending node and forwards this data message to appropriate nodes (column 8, lines 11-13; claim 1 - forwarding packets of data from said source to the routers in the subnet). Referring to Figures 5, Perlman discloses a message format that has a LOC-AREA field 550 used to identify the area within a network. The message format also has a multicast address field (column 10, lines 18- 26; claim 1 - said packets of data contain data fields identifying the scope region and the root identifier of the scope region).

On page 10 of the remarks, regarding claim 2, the Applicant argues that Perlman does not teach or suggest a root identifier for a subnet. The Examiner respectfully disagrees for the same reasons stated above.

On page 11 of the remarks, regarding claim 20, the Applicant argues that Perlman does not teach or suggest hierarchical subnets. The Examiner respectfully disagrees for the same reasons stated above.

On page 11 of the remarks, regarding claims 5-10, the Applicant argues Green does not disclose scope region or root identifiers. The Examiner respectfully disagrees. Green discloses, referring Figure 11A, steps 162, 164, 166-168, 170, and 174 to determine that the first parent router is within a scope region and is not the root of for the scope region, then to invoke a join operation, and to confirm request. Referring to both Figures 11A and 11B, Green also discloses steps 162, 164, 180-183, and 174 to determine that the first parent router is within a scope region and is the root of for the scope region, then to invoke a join operation, and to confirm request (column 10, lines 51-67, column 11, lines l-5; column 13, lines 64-67; column 14, lines 1-25; claim 5 - determining at the first parent router whether the first parent router is within the scope region; if the first parent router is within the scope region, locating the root identifier for the scope region at the first parent router; invoking a join operation at the first parent router to join the receiver to the multicast session; and then replying from the first parent router to the receiver with a root identifier reply message once the join operation is completed). Therefore, Green discloses a scope region and root identifiers.

On page 11 of the remarks, regarding claims 11-17, the Applicant argues Shaughnessy does not disclose a hierarchical network. In response to applicant's arguments, the recitation hierarchical network has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does

not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

On page 12 of the remarks, regarding claim 12, the Applicant argues Shaughnessy does not teach or suggest receiving the mobility report, determining at the second router if it is outside the scope region; or invoking a mobile join operation. The Examiner respectfully disagrees. Shaughnessy discloses a second router that receives an affiliation message from a mobile subscriber unit, as represented in step 601 (column 6, lines 33-38; claim 12 - receiving the mobility report message at the second router). Shaughnessy also discloses a step 602 that determines if a talk group is represented at a second router. If not, the process proceeds to step 603. At step 603, the second router identifies a multicast address corresponding to the talk groups indicated in the affiliation message (column 5, lines 2-12; column 6, lines 33-41 and 54-66; claim 12 - determining at the second router if the second router is outside the scope region; and, invoking a mobile join operation if the second router is outside the scope region). Therefore, Shaughnessy discloses receiving the mobility report, determining at the second router if it is outside the scope region; or invoking a mobile join operation.

On page 12 of the remarks, regarding claims 13-17, the Applicant argues Shaughnessy does not teach or suggest a root identifier. The Examiner respectfully disagrees. Shaughnessy discloses a subscriber unit that roams between sites. A subscriber unit sends an affiliation message to a site. The affiliation message includes both a talk group identification group (root identifier) and a multicast address (column 5, lines 39-67; column 6, lines 1-19; claim 11 - sending a mobility report message from the mobile receiver to the second router wherein the

mobility report message contains data identifying the scope region of the multicast session, the application identifier of the multicast session and the root identifier of the scope region). Therefore, Shaughnessy teaches a root identifier.

On page 13 of the remarks, regarding claim 3, the Applicant argues Shaughnessy does not teach or suggest a hierarchical network or binding points. The Examiner respectfully disagrees. Shaughnessy teaches a number of base stations **403-405** which the Examiner equates to individual networks (hierarchical networks). Also, Shaughnessy teaches binding points for roaming subscriber units (See column 5, lines 42-48.)

On page 13 of the remarks, regarding claim 4, the Applicant argues neither Perlman nor Doeringer teaches a scope region that defines levels of a subnet. The Examiner respectfully disagrees. Perlman discloses a message format that has a LOC-AREA field 550 used to identify the area within a network. The message format also has a multicast address field 582 (column 10, lines 18-26; claim 4 - receiving a packet of data at a router in the network). Perlman also discloses a multicast address field 582 which a node uses to test whether a multicast address is of interest to the node (column 10, lines 40-45; claim 4 - determining whether the router is within the scope region specified in the data field identifying the scope region for the packet of data).

On page 13 of the remarks, regarding claims 18 and 19, the Applicant argues neither Shaughnessy nor Green teach a hierarchical network for multicasting through a scope region and unique root identifier. The Examiner disagrees for the same reasons as stated above in relation to claims 13-17.

The Examiner respectfully reminds the applicant that the claims are read in light of the specification and limitations from the specification are not read into the claims. The Applicant

appears to have taken a very specific interpretation of the terms *hierarchical network/subnet* and *scope region.* And, the Examiner has taken a broad, literal, and reasonable interpretation of those terms. Should the Applicant further amend the claims to reflect their intended meaning of the above recited terms, as consistent with the specification, one could overcome the prior art.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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